

GROWTH OF DILUTE NITRIDE COMPOUNDS

ABSTRACT OF THE INVENTION

A method for growing a dilute nitride includes placing a III-V substrate 120 in a chemical reaction chamber 125. The III-V substrate 120 is heated to a predetermined temperature in a range about 550-700 degree C in an atmosphere including a Group V element gas or vapor 187. Vapors of at least one Group III element organometallic compound 135, 150, 162 are flowed into the chemical reaction chamber for initiating an epitaxial growth. Vapors of a Group III element containing compound 172 wherein at least one Group III element is covalently bonded with nitrogen (N) are also flowed to grow dilute nitride films on the III-V substrate inside the chamber 125.